HERITAGE REMEDIATION/ENGINEERING, INC.

5656 Opportunity Drive
Toledo, OH 43612
Phone: 419/478-4396
FAX: 419/478-4560

November 22, 1991

Mr. Gary Sanderson
Case Manager
Bureau of ECRA
NEW JERSEY DEPARTMENT of ENVIRONMENTAL PROTECTION
401 E. State St.
5th Floor
Trenton, N.J. 08625

RE: October Monthly Project Status Report
Former HEXCEL CORP. Site
205 Main Street, Lodi Borough
Bergen County, NJ
ECRA Case No. 86009
HR/E Project No. 60027

Dear Mr. Sanderson:

On behalf of HEXCEL CORPORATION, Heritage Remediation/Engineering, Inc. (HR/E) has prepared this monthly status report of remedial activities performed at the above reference site. This report is in partial fulfillment of paragraph 36 of the conditional approval letter requiring the submittal of a monthly status report and describes activities performed over the period from September 1, 1991 to October 1, 1991. This report also addresses, where appropriate, comments to the July 12, 1991 letter from the Bureau of Environmental Evaluation and Cleanup Responsibility Assessment (Bureau).

91RB4140.T1

During October, HR/E personnel conducted site activities from the 14th through the 25th as follows:

- treated and discharged accumulated basement water
- recovered of DNAPLs from RW7-1, RW7-4, RW7-5, MW-6, and MW-8
- recovered of LNAPLs from CW-7
- attempted the packer test of the FO production well
- sampled the FO production well
- installed an 8-inch pilot well (PI-1) in the lower overburden aquifer
- conducted a 24-hour test of the lower overburden aquifer
- sampled the pilot well
- treated and discharged pilot well test water
- installed a recovery well (RW1-1) in the UST cavity
- met with Gary Sanderson (Case Manager) and Mike McCann (Case Soil Specialist) on 10/16
- collected 12 chip samples and 4 wipe samples of the Steam Tunnel

A SOILS

Pilot Soil Vapor Extraction

A proposal for a pilot soil vapor extraction project for remediation of organic vapors in the vadose zone is being prepared and will be submitted as part of the November monthly status report.

Soil Confirmation Borings

At this time, we are waiting for NJDEP correspondence and discussion for additional soil confirmation borings.

B GROUND WATER

Installation of Wells

Two new wells were installed, RW1-1 and PI-1. Boring logs and well completion diagrams are included in Appendix A. Recovery well RW1-1 was installed in AEC-1 in the cavity of the removed USTs. RW1-1 is 15 feet in depth with 10 feet of screen placed as to intersect the water table. The well is 4 inches in diameter and constructed of 0.010-inch wrapped stainless steel screen. LNAPLs were observed on

soil cuttings, but none were seen during or after well development. Further evaluation is needed before the second proposed recovery well is installed in the former tank cavity.

Pilot Injection well (PI-1) was installed in the vicinity of CW-17 and RW7-6. PI-1 is 32 feet in depth with an outer casing 18 feet in depth (approximately eight feet into the silty clay unit). The outer well casing is 12 inches in diameter; the inner well is 8 inches in diameter. The well screen is 15 feet in length and constructed of 0.010-inch wrapped stainless steel. The riser is constructed of galvanized steel. Both wells were developed using pumping methods. Development water was placed in drums and transferred to the treatment system. Soil cuttings from both borings were added to the existing stockpile of soil before a composite sample was obtained for disposal purposes.

Evaluation of the Upper Overburden Aquifer

Static water levels were collected on October 10 and 15, 1991. A ground-water surface contour map is included as Figure 1. An Omni DataPod data logger was removed from its enclosure on October 18 and returned to Toledo. Data was used to monitor ground-water levels in MW-6 and lower overburden aquifer MW-7 July 24, 1991 to October 18, 1991. Once rainfall and river stage data are received and reduced, this long-term data will be presented in a later update report.

Evaluation of the Lower Overburden Aquifer

Following installation of PI-1 an aquifer pumping test was conducted using nearby lower overburden monitoring wells for distance-drawdown measurements. The 24-hour aquifer pumping test was initiated on October 18, 1991. The average pumping rate during the test was 4 gallons per minute. A water sample was collected from the pump discharge on October 21, 1991 for VOC analysis. Approximately 80 $\mu g/\ell$ (ppb) of VOCs were found in the water sample. The predominant constituent was chlorobenzene. This analytical data is inconsistent with a VOC sample collected from

the holding tank (H-1) during water treatment. This water sample showed over 2,500 $\mu g/\ell$ of VOCs of which chlorobenzene was 2,300 $\mu g/\ell$. This can best be explained by some change in water quality as a result of the pumping test. Analytical results are presented in Appendix B. A pH of 2.1 was reported in the results. Conversations with All-Test Laboratory indicate that a mixup at the laboratory may have occurred where a water sample was taken from the container with nitric acid preservative for metals analysis.

To further characterize the lower overburden aquifer, slug tests were conducted on a number of the monitoring wells on October 15, 1991 to estimate the hydraulic conductivity, transmissivity, and storativity of the lower overburden aquifer. An In-Situ HERMIT data logger and pressure transducers were utilized to monitor and store data. The SLUGIX program was used for calculating these hydraulic parameters. An Injection Well Feasibility Report will be generated and submitted after all data is reduced and interpreted.

Evaluation of the Bedrock Aquifer

To comply with NJDEP's July 12, 1991 letter, a packer test was attempted in October 1991. The diameter of the inflated packers did not provide for an adequate seal with the bedrock formation. The failed packer test did yield some important information regarding the bedrock aquifer. Of particular importance was the effect that pumping of the production well had on the wells screened within the lower overburden aquifer. The water level response indicates some hydraulic connection between the two units that previously were considered isolated. This is consistent with analytical data showing the limited presence of VOCs in the bedrock aquifer. To evaluate the extent of hydraulic connection between the two units, two activities are proposed; (1) completion of the packer tests with some modifications, and (2) performance of a 24-hour pumping test of the production well.

Approximately 45.6 $\mu g/\ell$ (ppb) of VOCs were found in a water sample obtained October 18, 1991. The predominant constituent was methylene chloride. Analytical results are presented in Appendix B. A mixup at the laboratory was indicated in the pH result.

C REPORT OF OTHER SITE ACTIVITIES

Treatment System Testing

The air stripping towers and incinerator were operated as part of testing of the system for a total of 69 hours over a nine day period. Over this time 15,030 gallons of water was treated. Water was recirculated to attain a more complete reduction of VOCs. A total of 8,120 gallons was discharged to the PVSC in two batches. The source of the water was the basement, DNAPL recovery system and pilot test of the lower overburden aquifer and the quantity of water treated by source was 2,200 gallons, 320 gallons and 5,600 gallons respectively. Appropriate samples were collected prior to and during discharge as per FO's agreement with the PVSC.

DNAPL Recovery System Operation

On October 15, 1991 the R.E. Wright DNAPL recovery pump was reinstalled in RW7-5 replacing the QED pulse pump installed in July as part of a pumping test. The PVC pulse pump showed severe chemical reaction to the product in the well. When removed, the pump was elastic and showed extreme expansion. The DNAPL pumps were turned on (discharge to 500 gallon stationary tank) and allowed to run for several hours to observe the discharge stream. Discharge was estimated at about 0.5 gallons per minute from each pump.

The DNAPL recovery system was operated for 120 hours over the nine day period of site activity. During this period approximately 15 gallons of DNAPL and 400 gallons of water were recovered. DNAPL/water was recovered from RW7-1 for a period of 115 hours and from RW7-5 for a period of 5 hours. Insufficient DNAPL is present in the wells to automatically actuate the pumps. Therefore, DNAPL

recovery was based on gravity separation of DNAPL from the recovered water. The DNAPL/water was pumped into the 500 gallon recovery tank (No. H-7). DNAPL was drained into a 55-gallon drum. Water was transferred in drums to the ground-water treatment system.

The discharge was tested at random intervals for flow rate and percentage of DNAPL present. Following 4 hours of pumping the discharge from RW7-5 showed no indications of DNAPL and the pump was shut off to allow a greater amount of liquid to be pumped from RW7-1. RW7-5 was started up three more times over the next four days and produced only slightly discolored water for a few minutes each time.

During the first one hour of the test no DNAPL was present in the discharge. At approximately one hour the discharge began to show a slight brown coloring and small bubbles of DNAPL were noted. Tests showed the discharge to be less than 1% DNAPL at this time. By the fourth hour of pumping the discharge stream from RW7-1 carried approximately 2-3% DNAPL which increased to a maximum of about 10% by the second day of the test. The discharge stream from RW7-5 showed no DNAPL or discoloration over four hours and was shut down. Over the next several days RW7-5 was cycled and produced similar results.

DNAPL was pumped directly from MW-8, RW7-4, MW-6 and CW-15 using a brass QED pump and the driver controller. These wells were pumped until no DNAPL was seen in the discharge, allowed to stand and pumped again. This was continued on each well until no appreciable DNAPL was present. Approximately 15 gallons of DNAPL were recovered primarily from MW-8. The following Table 1 illustrates DNAPL recovery from the aforementioned wells:

TABLE 1

DNAPL RECOVERY FROM DIRECT PUMPING OF WELLS

WELL NUMBER	TIMES PUMPED	DNAPL RECOVERED
MW-8	4-five minute increments	5-6 gallons
CW-15	once	discolored water only
MW-6	3-three minute increments	4-5 gallons
RW7-4	2-five minute increments	6-7 gallons

DNAPL recovery from total fluid removal is feasible, however, the recovery of 15 gallons of DNAPL from 400 gallons of water which requires treatment before discharge is not efficient. The same quantity of DNAPL was recovered by direct pumping from each of the wells which have shown DNAPL in the past, with little additional water requiring treatment. If RW7-1 and RW7-5 are added to the list of wells which can be directly pumped during each site visit the total volume of DNAPL recovery should be increased to about 30 gallons per pumping round. The following Table 2 summarizes DNAPL thicknesses.

TABLE 2
DNAPL THICKNESS SUMMARY

WELL	DATE	DEPTH TO DNAPL (ft. below TOC)	DNAPL THICKNESS (ft.)	COMMENT
RW7-1	8-28-90	---	≈ 5	bailed
	6-91	---	---	pump
	10-15-91	---	---	pump
RW7-2	8-28-90	---	trace	bailed
	6-91	---	ND	
RW7-3	8-28-90	---	trace	bailed
	6-91	---	trace	
	10-15-91	---	ND	
RW7-4	8-28-90	---	≈ 4	bailed
	6-91	16.01	2.5	
	8-6-91	17.78	0.73	
	10-15-91	17.56	0.95	
	10-21-91	17.76	0.75	after DNAPL removal
RW7-5	9-25-91 9-26-91 9-27-91 9-28-91 10-3-91 10-10-91	15.18 15.45 15.62 15.78 15.95 16.00	4.17 3.90 3.73 3.57 3.40 3.35	Recovery system pilot test on RW7-5
	6-91	---	---	pump
	10-15-91	---	---	pump
MW-6	6-91	18.36	0.2	
	8-6-91	17.36	1.20	
	10-15-91	17.33	1.23	
	10-21-91	18.18	0.38	after DNAPL removal
MW-8	6-91	16.74	0.5	
	8-6-91	15.66	1.58	
	10-15-91	15.68	1.56	
	10-21-91	16.75	0.49	after DNAPL removal

LNAPL Recovery System

The R.E. Wright system for LNAPL recovery was not operated during the period of site activity. No LNAPL has been present in wells RW6-1 and RW6-2. LNAPL was recovered using an air lift pump from well CW-7. The pump was operated for 5 hours recovering approximately 0.25 gallons of LNAPL and 160 gallons of water. The water was placed in drums and transferred to tank H-5 for later treatment. Control well CW-7, which has shown considerable LNAPL build-up in the recent past was checked and found to contain only 1-2 inches of free product. The liquid level was approximately 6 inches above the screened interval. It was thought that the high liquid levels may be excluding free product from entering the well and therefore the decision was made to pump the well down to a point where the liquid level dropped below the top of screen level.

The well was pumped (discharge to drums) at approximately 1 gpm for 4 hours during which time the liquid level was well below the top of screen. During this period, floating product was recovered using a second pumping unit (QED) equipped with a floating product skimming device.

The amount of product present in CW-7 does not indicate a large volume of LNAPL in the subsurface at this time. This would indicate that installation of an automated system would not be effective at this time.

Miscellaneous

As part of waste disposal activities, we collected samples of stockpiled (staged) soil from the USTs, wells and trenches, LNAPL, DNAPL, spent carbon and pillows and personal protective gear.

To satisfy the requirements of Item 27 of the August 1990 cleanup letter, activities were conducted in the Steam Tunnel. The Tunnel was broom swept and sampled for PCB analysis. Eight samples were collected from the walls and four samples were

collected from the floor, four wipe samples were collected from piping located in the tunnel, and one soil sample was collected from the debris. Three of the eight chip samples showed PCB levels exceeding the cleanup criterion of 1 mg/kg (Appendix C).

SCHEDULE UPDATE

The attached schedule (Table 3) summarizes the projected timetable for the current period.

Should you have any questions or concerns regarding this report, please do not hesitate to call.

Respectfully,
Heritage Remediation/Engineering, Inc.

Robert R. Beckwith, CPG
Senior Hydrogeologist

Attachments

cc: A. William Nosil
Renee van de Griend
James Higdon
Jeff Stevens

Task Gantt

TABLE 3
Project Schedule

Project: HEXOCT.PJ
11-21-91